

EMPIRE STATE
REALTY TRUST

DESIGN GUIDELINES
(Building Standard Specifications)

501 Seventh Avenue
New York, NY

SECTION III
DESIGN GUIDELINES

GENERAL ARCHITECTURAL	
FIRESTOPPING	Seal all penetrations of existing/new fire rated partitions.
ABATEMENT	Use only certified asbestos abatement contractor approved by the building management to remove all asbestos.
MILLWORK	All millwork including blocking and bracing shall be fire retardant as per code.

ARCHITECTURAL TYPICAL DESIGN	
ENTRY DOORS & HARDWARE	<p>Double or Single-Entry Doors: Size: (2) 3'-0" x 7'-10" x 1/2" <i>or</i> (1) 3'-0" x 7'-10" x 1/2" Type: ½" Thick Tempered Bronze Tinted Glass w/ Top & Bottom Solid Aluminum Rails w/ Black Anodized Finish 2" Solid aluminum tubing. Closer: Center Hung Overhead Door Closer Pivot: Top & Bottom Pivots Pulls: Back to Back Pulls-Satin Chrome Finish Building Standard Maglock: Cylinder/drop lock—keyed on exterior, thumb turn on interior to match building grand master.</p> <p>Security: Siedle Item: MR 611-3/1-0 W/ KR611-3/1-0 W/GU 611-3/1-0 MICACEOUS DARK GREY - Provide (2) BM 611-0 and (1) TM612-1 Mounted 4'-4" AFF top of box. 6" off frame. Website Link: Siedle Vario System</p>
DOOR HARDWARE & FRAMES (METAL & GLASS OFFICE FRONT)	<p>Conference Room: Size: 3'-0" x 8'-0" x 1/2" Type: Glass Door w/ Passage Set Color: Clear Anodized metal Hinges: Manufacturer recommended Finish: US26D Satin Chrome Door Stop: Manufacturer recommended, Finish: US26D Satin Chrome</p> <p>Office Doors: Size: 3'-0" x 8'-0" x 1/2" Type: Glass Door w/ Lockset Color: Clear Anodized metal Hinges: Manufacturer recommended Finish: US26D Satin Chrome Door Stop: Manufacturer recommended, Finish: US26D Satin Chrome</p>

<p>DOOR HARDWARE & FRAMES (WOOD & GLASS OFFICE FRONT)</p>	<p><u>Conference Room/ Office Doors:</u> Size: 3'-0" x 8'-0" x 1-3/4" Type: Plain Sliced Cherry veneer/glass door Color: Stain to match building control sample.</p> <p>Office Lockset: Manufacturer: Schlage – ‘D’ Series/ND53PD, Item: Athens Finish: BHMA 626; US26D</p> <p>Conference Rooms Passage set: Manufacturer: Schlage – ‘D’ Series/ND10S, Item: Athens Finish: BHMA 626; US26D</p> <p>Hinges: Hager Item: AB700 Series (3) Knuckles, (2) Pair, Finish: US26D Satin Chrome Door Stop: Rockwood Item RW44326D, Finish: US26D Satin Chrome Silencers: Rockwood Item: RW609 (3) Per Leaf, Finish: Grey</p> <p>Material Guidelines:</p> <ul style="list-style-type: none"> ▪ Urea formaldehyde free. ▪ FSC Certified wood with COC certification. ▪ Manufactured or extracted within 500 miles of final installation. ▪ Be engineered wood product with recycled content cores. <p>Adhesives:</p> <ul style="list-style-type: none"> ▪ No styrene butadiene, methylene chloride or chlorinated hydrocarbons.
<p>DOOR HARDWARE & FRAMES (GENERAL)</p>	<p>Service Rooms, Storerooms/Mechanical & Closet Doors: Size: 3'-0" x 7'-10" x 1-3/4" Type: Hollow Metal, Non-Rated, Knock-down Frames</p> <p>Classroom Lockset: Manufacturer: Schlage – ‘D’ Series/ND75PD, Item: Athens Finish: BHMA 626; US26D</p> <p>Passage set: Manufacturer: Schlage – ‘D’ Series/ND10S, Item: Athens Finish: BHMA 626; US26D</p> <p>Storeroom/Mechanical Lockset: Manufacturer: Schlage – ‘D’ Series/ND80S, Item: Athens Finish: BHMA 626; US26D</p> <p>Hinges: Hager Item: AB700 Series (3) Knuckles, (2) Pair, Finish: US26D Satin Chrome Door Stop: Glynn-Johnson Item GJ-454S, Finish: US26D Satin Chrome Silencers: Ives Item:SR64/65 (3) Per Leaf, Finish: Grey Closer: Norton #8501, Finish: US26D Satin Chrome (For Mechanical Rooms) Seal: Zero Head: Jamb Seal #770AA w/ #770SPB. Zero Automatic Mortised Drop Seal #364AA (For Mechanical Rooms Only)</p>

**WOOD OFFICE
FRONT CONTROL
SAMPLE**



PAINT

Primer General:

Benjamin Moore – Ultra 500 Primer N534

Website: [Benjamin Moore - Ultra Primer N534](#)

Primer Metal Surfaces:

Benjamin Moore – Super Spec HP Acrylic Metal Primer P04

Website: [Benjamin Moore - Super Spec HP](#)

General Paint:

Benjamin Moore – Eco Spec WB #373

Color: Cotton Ball (OC-122)

Finish: Flat

Website: [WB Interior Latex #373 - Eco Spec WB #373](#)

Ceiling Paint:

Benjamin Moore – Eco Spec WB #373

Color: Super White

Finish: Flat

Website: [Benjamin Moore - Eco Spec WB #373](#)

HM Doors/Frames & Convector Cover Paint:

Benjamin Moore – Eco Spec WB #376

Color: Cotton Ball (OC-122)

Finish: Semi-Gloss

Website: [Benjamin Moore - Eco Spec WB #376](#)

Primer plus two (2) coats paint.

FLOORING

Polished Exposed Concrete with Sealer:

Manufacturer: Dur-A-Flex
Item: (2) Part Epoxy Resin Sealer
Dur-a-Glaze # 4 WB Primer hardener w/
Dur-a-Glaze #4 Resin topcoat
Finish: High Gloss clear

Offices / Conference Rooms:

Manufacturer: Bentley
Style: Empire County
Color: Building the Empire
Product #PDS#147586-021
Pile Weight: 32 oz

Field Carpet:

Manufacturer: Bentley
Style: Empire State
Color: NY State of Mind
Product #PDS#147586-016
Pile Weight: 32 oz

Resilient Flooring:

Manufacturer: Amtico
Style: AR0ABB28
Color: Black Envy
Size: 4-1/2" x 36" Beveled
Website Link: AMTICO

Wall Base:

Manufacturer: Johnsonite
Style: Wall Base Reveal (MW-121-F)
Color: # 29 Moon Rock
4 1/4" High
Floor Score Certified
Website: Johnsonite - Wall Base

Transition Strips:

Manufacturer: Roppe
Style: Vinyl Accessories
Color: #114 Lunar Dust
Floor Score Certified
10% Recycled Content
Website Link: Roppe Vinyl Accessories

Material Guidelines:

- PVC free.

Adhesives:

- Low VOC systems with no styrene butadiene, methylene chloride or chlorinated hydrocarbons.

<p>MECHANICAL ROOM FLOOR</p>	<p>Floor Sealer: Scofield Systems Scofield Selectseal-W Website Link: Scofield Selectseal-W Applied per manufacturer instruction.</p>
<p>APPLIANCES</p>	<p>Refrigerator 30” Manufacturer: GE Monogram Item: ZIC30GNDII / Reversible Hinge Finish: Stainless Steel Website: Refrigerator</p> <p>Refrigerator 36” Manufacturer: GE Monogram Item: ZIC360NHLH / Left Hinge Item: ZIC360NHRH / Right Hinge Finish: Stainless Steel Website: Refrigerator</p> <p>Microwave Manufacturer: GE Monogram Item: ZEM115JSS Finish: Stainless Steel Website: Microwave</p> <p>Dishwasher Single Drawer Manufacturer: Fisher & Paykel Item: DD24SCTX9 EZKLEEN Finish: Stainless Steel Panel Website: Dishwasher</p> <p>Dishwasher Double Drawers Manufacturer: Fisher & Paykel Item: DD24DAX9 EZKLEEN Finish: Stainless Steel Panel Website: Dishwasher</p>
<p>PANTRY FIXTURES</p>	<p>Sink Manufacturer: Elkay ELUHAD-2115 Finish: Stainless Steel Website: Elkay Sink</p> <p>Faucet Manufacturer: Moen Align Series 7165 W/ Spray Finish: Chrome Website: Moen Faucet</p>

<p>SOLID SURFACE COUNTERTOP & BACKSPLASH</p>	<p>Solid Surface Countertop Manufacturer: Han Stone Color: Royal Blanc Thickness: 1-1/4” Website: Hanstone</p> <p>Pantry Backsplash Manufacturer: Walker Zanger Style: Roku Color: White Size: 1x6 Mosaic Offset Website: WalkerZanger</p> <p>Adhesives to be low VOC systems with no styrene butadiene, methylene chloride or chlorinated hydrocarbons.</p>
<p>PLASTIC LAMINATE</p>	<p>Wall Cabinets and Shelves: Manufacturer: WilsonArt Item: Laminate Color: D354K-01 Finish: Glossy 20% Recycled Content Website: Wilsonart</p> <p>Adhesives to be low VOC systems with no styrene butadiene, methylene chloride or chlorinated hydrocarbons.</p>
<p>MILLWORK VENEER</p>	<p>White Melamine on interior cabinets. Birch Veneer for Hat Shelf @ Coat Closet.</p> <p>Material Guidelines:</p> <ul style="list-style-type: none"> ▪ Urea formaldehyde free. ▪ FSC Certified wood with COC certification. ▪ Manufactured or extracted within 500 miles of final installation. ▪ Be engineered wood product with recycled content cores. <p>Adhesives:</p> <ul style="list-style-type: none"> ▪ No styrene butadiene, methylene chloride or chlorinated hydrocarbons.
<p>MILLWORK PULLS</p>	<p>Manufacturer: Hafele Model: #101.20.720 Website: Hafele</p>

<p>COAT CLOSETS</p>	<p>Landlord to supply chrome rod and wood shelf for approximately 5 linear feet of closet space.</p>
<p>INTERIOR PARTITIONS</p>	<p>Demising: Landlord will provide rated, insulated partitions separating each tenant as required by code.</p> <p>Typical: 2 ½” metal studs 16” O.C. slab to slab partition with 5/8” gyp. bd. on both sides.</p> <p>Typical w/ Sound Attenuation: 2 ½” metal studs 16” O.C. slab to slab partition with 5/8” gyp. bd. on both sides & acoustical batt insulation</p> <p>Plumbing: 3 5/8” metal studs 16” O.C. slab to slab partition with 5/8” water resistant gyp. bd. on both sides & acoustical batt insulation</p> <p>Rated Partitions: As per Architectural details.</p>
<p>CEILINGS</p>	<p>Open Ceilings at Perimeter: One layer painted 5/8” Gyp. Bd. With 1-5/8” furring channel.</p> <p>Acoustic Ceiling Tile: Grid: Armstrong, Silhouette 9/16” bolt slot w/ 1/8” reveal Tile: Armstrong, Ultima Tegular Series #1912HRC (High Recycled Content) Size: 24" x 24" x 3/4" Color: White Website Link: Armstrong Ceiling Grid Website Link: Armstrong Ceiling Tile</p> <p>Gyp. Bd. Ceilings: One layer painted 5/8” Gyp. Bd. With 1-5/8” furring channel.</p> <p>Material Guidelines:</p> <ul style="list-style-type: none"> ▪ Manufactured or extracted within 500 miles of final installation. <p>Adhesives:</p> <ul style="list-style-type: none"> ▪ No styrene butadiene, methylene chloride or chlorinated hydrocarbons.
<p>WINDOW TREATMENTS</p>	<p>Manufacturer: Phifer Sheerweave Style: 2100, 10% openness with valance Color: PO2 white Note: with valance, manual crank and mounting hardware Website Link: Phifer SheerWeave Style 2100</p>
<p>EMERGENCY LIGHT FIXTURES</p>	<p>Manufacturer: AtLite Type: LED Exit Light w/ Emergency battery pack Item: Marathon Series Edgelit exit sign series 6” Red letters with White trim</p> <p>Website Link: AT Lite Edgelit Exit Sign</p>

LIFE SAFETY	Each floor is tied into the building Fire Alarm system. All equipment by Siemens.
LIGHT FIXTURES	<p>Pendant Lighting Fixture: Item: Axis LT Series Linear Pendant Lamp: 3000K LED Driver: 0-10V Website Link: Axis LT Fixture</p> <p>Recessed Lighting Fixture: Manufacturer: Axis Type: 2x2 / 2x4 recessed light fixture Item: DIA22 & DIA 24 Lamping: 3000K LED Driver: 0-10V Website Link: Axis Dia Fixture</p> <p>Recessed Downlight: Manufacturer: Fraxion3 Slim Item: F3SMFT-WHWH-90C-14A2-5Y1-CA1 Lamp: 3000K 2 SDCM LED Driver: 0-10V Website Link: Fraxion3 Slim LT Fixture</p> <p>Wall Sconces Manufacturer: Zaneen Item: L3NE-SUR-SYS-DI-OP-2/4/6-120-L306-DV-00 Lamp: 3000K LED Driver: 0-10V Note: Crystal White finish for Wood Office Front Scheme Anodized aluminum for Metal Office front Scheme Website Link: Zaneen Never Ending</p> <p>Undercabinet Lighting: Manufacturer: Phillips Model: ColorKinetics ew Power Powercore Website Link: Philips eW Profile Powercore Lamping: INTEGRAL 2700K LEDS</p> <p>Mechanical Room: Manufacturer: Texas Fluorescent – 555 Series Item: 555-A-48L-F30W4100L-DMV-30K-WH Lamping: LED Website Link: Texas Fluorescent</p>

MECHANICAL SYSTEMS

HVAC

Perimeter: Steam radiators. Existing manual valves to be replaced with automatic control valves to be tied to the VAV box where AC units over 5 Tons are installed. If units are constant volume, automatic control valves to be tied to a local thermostat, one per exposure. Coordinate all tie-ins and requirements with Base Building during design phase.

Base Building Interior AC: Water or air-cooled units with economizer. Units over 65,000 BTUH to be VAV. Interior distribution via pressure independent VAV boxes, Anemostat single inlet or approved equal. Tie-in to existing base building water system to be coordinated with Base Building during design phase.

VAV: Pressure independent single duct Anemostat variable air volume boxes with DDC controllers mounted in the factory by the box manufacturer. Tie box into BMS.

Controls: Central BMS – Johnson Metasys System.
DDC for VAV, box mounted by manufacturer, tied to BMS.

Filters: MERV 8 during construction.
MERV 13 during occupancy.

New building standard for complete tenant fit up:

- Ceiling air diffusers to be [Anemostat model Paragon 2’x2’](#), baked white enamel finish.
- Ceiling return grilles to be [Anemostat model Paragon 2’x2’](#) 15” Neck, baked white enamel finish.
- Side wall diffusers to be [Anemostat model S2H](#) 1’x2’ 20GA steel diffuser, baked white enamel finish.
- Side wall return grilles to be [Anemostat model S3H](#) 1’x2’ 20GA steel grille with 45 degree deflection, baked white enamel finish.

Supplemental A/C:
All by Tenant – Water or Air-Cooled DX. Refrigerant to be CFC free.

PLUMBING

PLUMBING PIPING

Tenant connections to the plumbing system are accomplished at various wet columns located through-out the floor. Tenants to install new isolation valves when connecting to CW & HW risers.

Sanitary, Waste and Vent:
No hub service weight cast iron, with heavy duty neoprene gasketed couplings with stainless corrugated jackets and a minimum of four stainless steel clamps per coupling.

Domestic Hot and Cold Water:
Type “L” copper, sweat joints, lead free solder insulate with ½” fiberglass with factory jacket.

Storm:
Schedule 40 galvanized steel pipe with threaded galvanized DWV fittings.

Install low-flow fixtures within tenant suites and pantries. Less than or equal to:
0.5 GPF – Urinal
1.28 – Water Closet
0.5 GPM – Lav

Install Instantaneous electric hot water heaters, [Eemax Model #SP-3208](#)

ELECTRICAL SYSTEMS	
POWER	Electrical Power: An Electric closet; power is fed from 120/208V panels in “Core” electrical closet.
TENANT METERING	Tenant power to be sub-metered. Tenant panels to be located within tenant demised premises.
FIRE ALARM	Sirina Fire Protection
EMERGENCY LIGHTING	Battery backup required for emergency. Exit Lights: L.E.D. Type (Required under ASHRAE 90.1-2004)
SECURITY	
SECURITY	Siedle Intercom System (3 X 1 module) Website Link : Siedle Vario System

SPRINKLER	
SPRINKLER HEAD (BUILDING STANDARD)	<ul style="list-style-type: none"> ▪ Concealed Pendent Sprinkler Type, Reliable “G4A” ▪ Exposed Upright/Pendent Sprinklers Type Reliable Model F1FR ▪ Sidewall Sprinkler Type Reliable Model SW56 Recessed F2 Escutcheon ▪ Extended Coverage Sidewall Sprinkler Type Reliable Model F1FR Extended Coverage EC-9
SPRINKLER PIPING	Mains and branches: Schedule 40 black steel with 125 PSI screwed fittings.



**HIGH PERFORMANCE
DESIGN AND
CONSTRUCTION
GUIDELINES**

**250 WEST 57TH STREET
New York, NY**

ESRT High Performance Design and Construction Guidelines

Energy Efficiency:

Lighting:

Reduce lighting power density from ASHRAE/IESNA 90.1-2016 standards by at least 10% and up to or exceeding 35%.

For office spaces, the ASHRAE/IESNA 90.1 2013 and NYCECC standard is 0.9 W/SF. This may be achieved through efficient lighting design, use of low wattage fixtures and reflective surfaces as well as LED task lights and day-lighting optimization strategies.

Implement dimming and tuning throughout.

Implement lighting controls, including daylight dimming controls for at least 50% of lighting load and occupancy sensors for at least 75% of connected lighting load.

Per NYCECC, daylight-responsive controls complying with Section C405.2.3.1 shall be provided to control the electric lights within 15 feet of windows and under skylights (ASHRAE 90.1-2013 requirements are similar).

Per NYCECC (and ASHRAE 90.1-2013), occupant sensor controls shall be installed to control lights in the following space types:

1. Classrooms/lecture/training rooms
2. Conference/meeting/multipurpose rooms
3. Copy/print rooms
4. Lounges
5. Employee lunch and break rooms
6. Private offices
7. Restrooms
8. Storage rooms
9. Janitorial closets
10. Locker rooms
11. Other spaces 300 square feet or less that are enclosed by floor-to-ceiling height partitions
12. Warehouses
13. Open Plan Offices

All lights in the space are to be tied into occupancy sensor based controls to ensure all lights are turned off following 15 minutes of all occupants leaving the space.

Per NYCECC (and ASHRAE 90.1-2013), occupant sensor controls shall automatically turn off lights within 20 minutes of all occupants leaving the space, be manual on or controlled to automatically turn the lighting on to no more than 50% power, and shall incorporate a manual control to allow occupants to turn lights off.

Per NYCECC (and ASHRAE 90.1-2013), each area of the building that is not provided with occupant sensor controls shall be provided with time switch controls.

Per NYCECC, internally illuminated exit signs shall not be more than 5 watts per side.

Tie in lighting controls to base building BMS for energy data reporting and monitoring.

HVAC:

All HVAC systems to meet or exceed ASHRAE 90.1-2016 or NYSERDA Stretch Code, whichever is more stringent.

Air or waterside economizer to be included in all applicable work.

Motorized outside air dampers must be designed, installed, tied into BMS and commissioned.

Where possible, install heating, ventilation and air conditioning systems that comply with the efficiency requirements outlined in the New Building Institute's Advanced Buildings™ Core Performance™ Guide Sections 1.4: Mechanical System Design, 2.9: Mechanical Equipment Efficiency and 3.10: Variable Speed Control.

For the tenant fit-out spaces, provide as applicable:

- a separate control zone for each solar exposure and interior space
- controls capable of sensing space conditions and modulating the HVAC system in response to space demand for all private offices and other enclosed spaces (e.g., conference rooms, classrooms)

The system should be capable of modulating AHU and zone minimum supply volume below 0.30 cfm/ft² (1.52 L/m²) of supply volume for standard VAV terminals, or below 22.5% of the peak design flow rate for fan powered VAV boxes).

Where possible, tie in radiators or perimeter heating/cooling system to VAV box controls and BMS.

Per NYCECC, HVAC equipment shall meet the minimum efficiency requirements of Tables C403.2.3 when tested and rated in accordance with the applicable test procedure.

Per NYCECC, the supply of heating and cooling energy to each zone shall be controlled by individual thermostatic controls capable of responding to temperature within the zone. Where humidification or dehumidification or both is provided, at least one humidity control device shall be provided for each humidity control system. Where a zone has a separate heating and a separate cooling thermostatic control located within the zone, a limit switch, mechanical stop, or direct digital control system with software programming shall be provided with the capability to prevent the heating set point from exceeding the cooling set point and to maintain a deadband in accordance with Section C403.2.4.1.2.

Per NYCECC, multiple-zone VAV systems with direct digital control of individual zone boxes reporting to a central control panel shall have automatic controls configured to reduce outdoor air intake flow below design rates in response to changes in system ventilation efficiency (Ev) as defined by the New York City Mechanical Code.

Implement Demand Controlled Ventilation through the use of CO₂ sensors in densely occupied areas and throughout the space (CO₂ monitors must be between 3 and 6 feet above the floor) and in the return air stream to the Air Handling Unit serving the space and tie in to controls.

Per NYCECC, demand control ventilation (DCV) shall be provided for spaces larger than 500 square feet and with an average occupant load of 25 people per 1,000 square feet of floor area (as established in Table 403.3 of the New York City Mechanical Code) and shall be served by systems with one or more of the following: 1. An air-side economizer, 2. Automatic modulating control of the outdoor air damper, 3. A design outdoor airflow greater than 3,000 cfm.

Right size equipment based on efficient lighting and plug loads (As stated in the plug load section below target lighting and plug load of 2.0-2.5 Watts per square foot or less of connected load).

Per NYCECC (and ASHRAE 90.1-2013), design loads associated with heating, ventilating and air conditioning of the building shall be determined in accordance with ANSI/ASHRAE/ACCA Standard 183.

If heating and cooling are provided by a single piece of equipment and are controlled by separate thermostats or sensors means will be provided to prevent the heating set point from exceeding the cooling set point minus any applicable proportional band. Means can include limit switches, mechanical stops, or software programming for DDC systems.

Per NYCECC, static pressure sensors used to control VAV fans shall be located such that the controller set points is not greater than 1.2 inches w.c. (200 Pa). Where this results in one or more sensors being located downstream of major duct splits, not less than one sensor shall be located on each major branch to ensure that static pressure can be maintained in each branch.

Specify CFC and HCFC-free refrigerants. Montreal Protocol called for a complete phase-out of CFC-based refrigerants by 1995 and HCFCs by 2030. Do not use CFC-based refrigerants in new HVAC&R systems.

Install local instantaneous hot water heaters. Hot water storage tanks must be separately called out along with an explanation for their requirement versus instantaneous hot water heaters.

Per NYCECC, water-heating equipment and hot water storage tanks shall meet the requirements of Table C404.2.

Additional Efficiency Package Options

Per NYCECC, Tenant Spaces shall comply with at least one of the following:

1. More efficient HVAC performance in accordance with Section C406.2.
2. Reduced lighting power density system in accordance with Section C406.3.
3. Enhanced lighting controls in accordance with Section C406.4.
4. On-site supply of renewable energy in accordance with Section C406.4.
5. High-efficiency service water heating in accordance with Section C406.7.

Submeter and pay for utilities based on usage. Submeter HVAC, plug loads, and lighting loads separately. At a minimum, assign circuits for lighting, HVAC, and plug loads (for example, circuits 1-4 lighting, 5-8 HVAC, and 9-12 plug load. This is no incremental cost and enables separate tracking of categories of energy usage.

Plug Loads:

ESRT's standard Load Letter form shall be utilized and completed for ESRT review.

Reduce plug loads by specifying equipment and appliances including, without limitation: computers, monitors, printers, refrigerators, dishwashers, water coolers, food service equipment, copiers, and A/V and IT equipment that meet or exceed EPA Energy Star requirements.

Implement plug load management strategies including occupancy sensors, outlet-based controls, circuited controls, and/or software programs. This measure is to be implemented if the simple payback period is demonstrated to be five years or less based on projected savings and estimated cost subject to the Empire State Realty Trust team's review.

Target lighting and plug load of 2.0-2.5 Watts per square foot or less of total connected load.

Per ASHRAE 90.1-2013, receptacles greater than or equal to 50% of all 125 volt 15- and 20-amp receptacles shall be automatically controlled in: private offices, conference rooms, rooms used primarily for printing and/or copying functions, break rooms, classrooms, individual workstations. This also applies to 25% of modular furniture circuits. Controlled receptacles must be visually marked to differentiate from uncontrolled receptacles and uniformly distributed throughout the space.

Commissioning:

A third party commissioning agent shall perform commissioning of energy systems within the tenant space or installed as part of the tenant's lease agreement including, without limitation, lighting, lighting controls, HVAC systems, BMS (including, but not limited to, VFD's, CO2 sensor calibration and DCV BMS and OA tie-in, motorized OA damper tied into DCV and BMS, static pressure or discharge air temperature reset, supply and return air setback schedules, air and water side economizers), Testing and Balancing, functional testing of applicable equipment, and electrical to ensure design optimizes performance and systems are constructed and function per efficient design.

Commissioning Report shall be submitted to ESRT for review prior to occupancy of the space and shall include, but not be limited to, all systems listed above.

Per NYCECC, commissioning and functional performance testing of the building mechanical systems, service water heating systems, and electrical power and lighting systems is required. HVAC systems shall be balanced in accordance with ASHRAE 111, "Testing, Adjusting, and Balancing of Building HVAC Systems" or other accepted engineering standards as approved by the department. Air and water flow rates shall be measured and adjusted to deliver final flow

rates within the tolerances provided in the product specifications. Test and balance activities shall include air system and hydronic system balancing.

Water Efficiency

Specify WaterSense fixtures for any fixture type that is eligible

- Water closet rate target is 1.1 GPF
- Urinal flow rate target is 0.125 GPF
- Pantry sink flow rate target is 1.0 GPM and include specification for an aerator
- Lavatory faucet flow rate target is 0.35 GPM.
- Shower flow rate target is 1.5 GPM.

Major water users are required to have submeters on water lines serving commercial cooking facilities, commercial laundry facilities, commercial gyms or spas, swimming pools, evaporative cooling towers and boilers serving buildings greater than six stories. All rooftop water tanks must be provided with a high water level alarm.

Materials and Resources

Per NYC Department of Sanitation, recyclable materials must include mixed paper, corrugated cardboard, glass, plastics, and metals. Take appropriate measures for the safe collection, storage, and disposal of two of the following: batteries, mercury-containing lamps, and electronic waste. All eligible materials must be properly disposed of in receptacles labeled per NYC Department of Sanitation regulations.

Any entity (other than residents) in a building which is generating waste must notify their employees, customers, clients, etc., about what and how to separate materials for recycling by:

- posting one or more signs in common areas routinely visited; and/or
- placing containers labeled with what to recycle.

Divert construction waste from landfills through aggressive recycling and donation programs. Develop and implement a construction demolition waste management plan. Include target recycling and diversion percentages (75%) in waste hauler contracts.

Post construction, provide dedicated clearly labeled areas for the collection and storage of recyclable materials.

Specify recycled content materials whenever possible, which may include, without limitation, gypsum board, acoustical tiles, carpet and carpet backing.

Specify regionally produced and extracted materials (within a 100 mile radius) whenever possible.

Specify rapidly renewable resources whenever possible, including, without limitation, bamboo, wool, linoleum and cork. Products must meet the Sustainable Agriculture Standard.

Specify and use wood products certified by the Forest Stewardship Council (FSC).

Indoor Environmental Quality

Monitor delivery of outside air to ensure indoor air quality and outdoor airflow compliance with ASHRAE 62.1-2016 and ASHRAE 55 requirements.

Smoking and vaping shall not be permitted indoors.

Implement Construction Indoor Air Quality Management Plans during performance of work and prior to occupancy to minimize the presence and spread of air pollutants.

Consider conducting indoor air quality testing after construction is complete and prior to occupancy to demonstrate that contaminant maximum concentrations are not exceeded.

Consider installing an air purification system and IEQ monitoring. An example is an air purification system designed to increase bi-polar ionization levels in the interior areas, which would provide cleaner air reducing particles, spores, odors and microorganism levels such as bacteria, mold and viruses. The monitoring system could be designed to measure and track the following parameters: CO₂, PM_{2.5}, TVOC, illumination, noise, temperature, and relative humidity. The monitoring system could ensure no or negligible ozone production.

Specify and install low-emitting (low or no Volatile Organic Compounds) adhesives, sealants, paints, coatings, flooring systems, ceiling systems, composite wood and agrifiber products, systems furniture and seating. Specify and install composite wood and agrifiber products and associated adhesives to contain no added urea-formaldehyde (NAUF).

Do not specify materials listed on the International Living Future Institute Red List.

Design and build to offer occupants control of lighting (task lights at workstations). For at least 90% of individual occupant spaces, provide individual lighting controls that enable occupants to adjust the lighting to suit their individual tasks and preferences, with at least three lighting levels or scenes. For all shared multioccupant spaces have in place multizone control systems that enable occupants to adjust the lighting to meet group needs and preferences, lighting for any presentation or projection wall must be separately controlled, and switches or manual controls must be located in the same space as the controlled luminaires.

Design and build to offer occupants control of temperature (for example. under-floor air diffusers). Provide individual thermal comfort controls for at least 50% of individual occupant spaces. Provide group thermal comfort controls for all shared multioccupant spaces.

Design and build to optimize daylight and views for occupants, which may be achieved through a design that includes interior rather than perimeter offices, or perimeter offices with glass fronts if perimeter offices are a design requirement.

Achieve a direct line of sight to the outdoors via vision glazing for 75% of all regularly occupied floor area.

Consider furniture partitions to be 42" or lower in height in order to allow for access to daylight and views. Additional privacy may be achieved through clear partition glass installed above the furniture panels.

For the avoidance of any doubt, nothing contained in these ESRT High Performance Design and Construction Guidelines shall be construed to modify the provisions of Article 1 of this Lease or impair any of Landlord's consent rights pursuant to Article 8 of this Lease.